

LISTS OF SPECIES

Magnoliophyta of the partial faunal reserve of Pama, Burkina Faso.

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Abstract: The partial faunal reserve of Pama is situated in the province of Kompienga, in the South-East of Burkina Faso, with typical Sudanian savanna vegetation. Adjacent to the Arli National Park and the Pendjari National Park, it is part of the so-called WAP complex, one of the largest wildlife areas in West Africa. Up to now, only little has been known about its flora. The present study aimed at reducing this gap in knowledge, and represents an important tool for conservation and research. The list of species was compiled from the surveys carried out from 2001 to 2004, additional relevé data, and herbarium specimens. We found 450 species, which belong to 244 genera and 73 families. The most species-rich family is Poaceae (83 species), followed by Fabaceae (64), Cyperaceae (24), Rubiaceae (22), Euphorbiaceae (20), Combretaceae (15), Asteraceae (14), Caesalpiniaceae (14), Mimosaceae (12), and Convolvulaceae (11).

Introduction

For Burkina Faso only a few local floras have been published (e.g. Arbonnier et al. 2002; Guinko and Thiombiano 2005). For most reserves of the country, there are virtually no publications about the flora, although this knowledge is important for conservation and management. For the whole country, there are roughly 1,700 species known (Schmidt 2006; data from a national checklist, unpublished), for the Sudanian zone as a whole, ranging throughout West Africa, White (1986) estimated 2,750 species.

The partial faunal reserve of Pama is part of a complex of large nature reserves including the W National Park, the Arli National Park, and the Pendjari National Park (often referred to as WAP complex) in the countries Burkina Faso, Benin, and Niger. This complex is the largest remaining wildlife area in the Sudanian zone of West Africa, best known for its large mammals. With the increasing intensification of land use over the last

decades, the reserves become even more important for the conservation of the flora as well.

Materials and methods

The partial faunal reserve of Pama is a protected area of IUCN category IV, established by decree nr. 6090/SE/F in 1955. Organized hunting and ecotourism support the forestry service and the local population; other activities include the collection of medicinal plants and dead wood for firewood. Cattle grazing and traditional hunting are prohibited. The reserve covers an area of 223,500 ha and is situated between the national road N18 from Natiaboani to Porga to the west, the Pendjari River to the South, and the Singou River to the east (Figure 1). The floodplains of the Pendjari in the South of the reserve are the lowest areas in Burkina Faso. The leached ferruginous soils are of a texture ranging from muddy sand to clay (Laclavère 1998) and are occasionally disrupted by lateritic crusts and granite hills in the vicinity of Pama.

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The reserve represents typical elements of the North Sudanian Zone, usually shrub savannas with high perennial grasses, some low grass savannas on lateritic crusts (*bowé*), small rocky hills and denser riverine vegetation on the boards

of the Pendjari and Singou rivers and smaller water courses. The online reports of Hartley et al. (2007) assign a high value of habitat irreplaceability of the reserve for Burkina Faso and for the Sudanian zone as a whole.

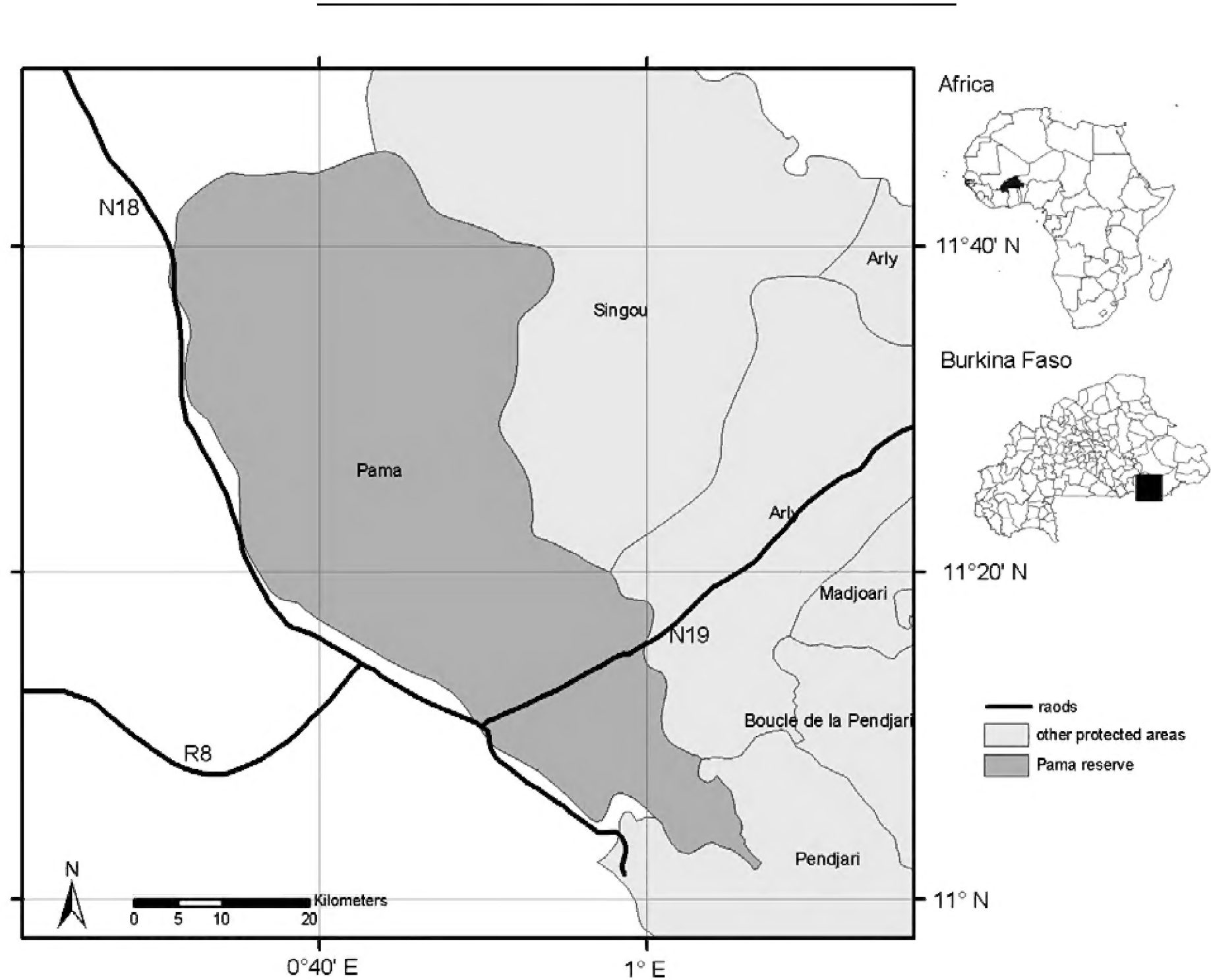


Figure 1. Map of the province of Kompienga showing the partial faunal reserve of Pama.

The list of species presented here was compiled from the surveys carried out by the first author from 2001 to 2004, data from the Natiabouani biodiversity observatory – a permanent plot of the BIOTA project in the North of the reserve (Hahn-Hadjali et al. 2006), a species inventory of herb layer plots conducted by Schmidt (2006) and specimen data from the University of Ouagadougou herbarium (OUA), and the Herbarium Senckenbergianum (FR). Species names followed the African Plants Database

(Gautier et al. 2006), families were assigned according to Brummitt (1992), but alternative family names were adopted.

Information on the life form has been assembled from Guinko (1984), Aké Assi (2001; 2002), and supplemented by our own observations. The more detailed information found in the literature has been reduced to the main types, as defined by Raunkiaer (1905), in order to have a comparable definition of life forms.

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Results and discussion

We found 450 species, which belong to 244 genera and 73 families. The most species rich families are Poaceae (83 species), followed by Fabaceae (64), Cyperaceae (24), Rubiaceae (22),

Euphorbiaceae (20), Combretaceae (15), Astera-
ceae (14), Caesalpiniaceae (14), Mimosaceae (12),
and Convolvulaceae (11) (Figure 2). These 10
families account for 62 % of all magnoliophytes.

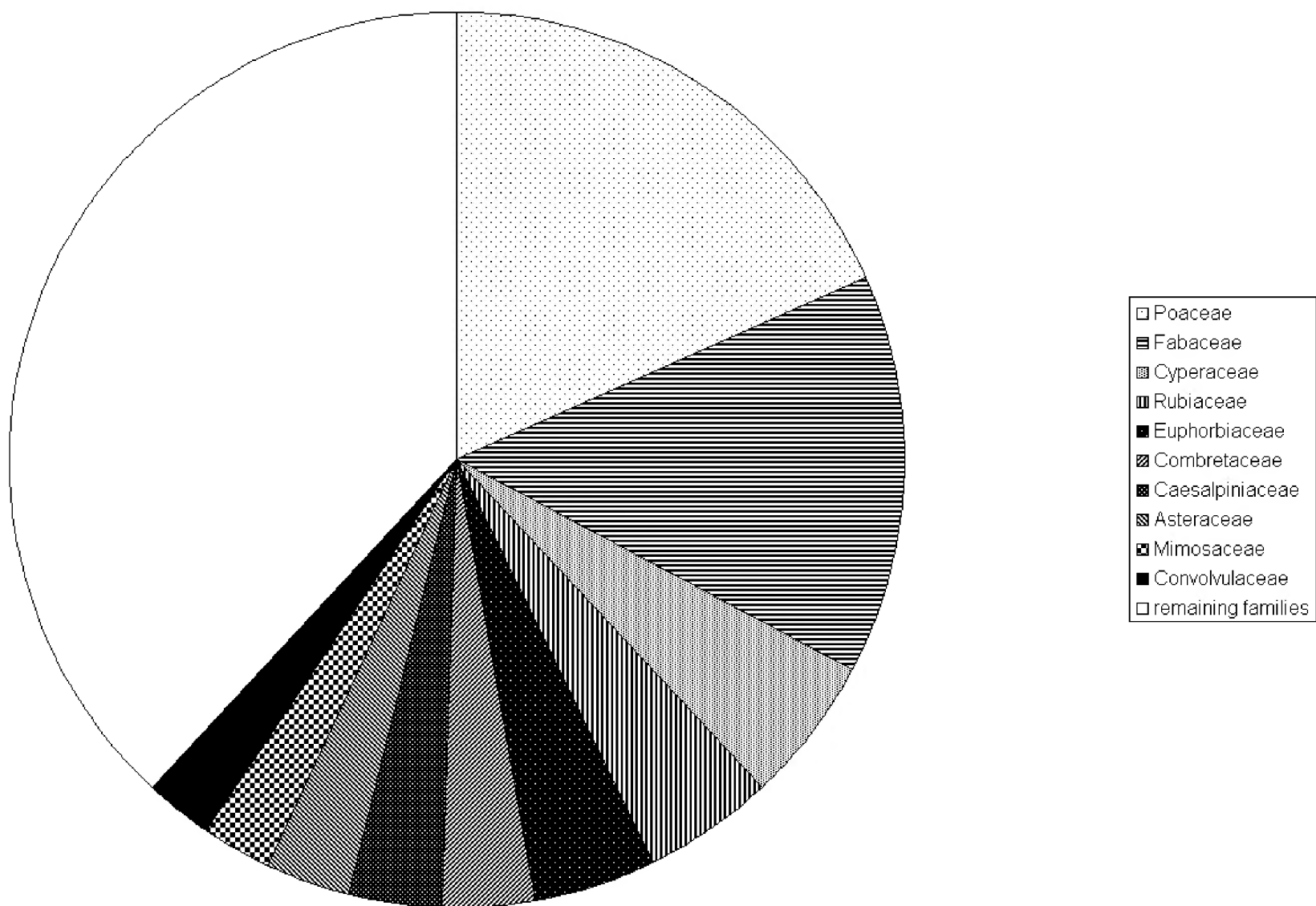


Figure 2. Family composition of the Magnoliophyte species in the partial faunal reserve of Pama.

The dominance of Poaceae and Fabaceae is typical for savanna areas and is – apart from species richness – also found in measures of abundance (e.g. Hahn-Hadjali et al. 2006). These two families are also the most species-rich in Burkina Faso as a whole (Schmidt 2006), and in the nearby Atakora mountains in northern Benin (Wala 2004). Further south, in Ivory Coast, Rubiaceae becomes more important (Aké Assi 2002).

Most species in the Pama reserve are therophytes (189), followed by phanerophytes (142), hemi-cryptophytes (46), chamaephytes (37), geophytes

(34), helophytes, and hydrophytes (1 each) (Figure 3). Similar results with about one third of the species belonging to therophytes and another third to phanerophytes were found by Wala (2004) and Schmidt (2006), but in both cases, phanerophytes are slightly more species-rich. The higher share of therophytes in the present study is caused by the prevalence of savanna habitats.

As compared to the flora of the nearby W National Park (Arbonnier et al. 2002: 512 species), there are 11 % less species in the partial faunal reserve of Pama. This is probably due to the

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higher habitat diversity within W National Park and the larger area of this transfrontier National Park. In the Atakora mountains, Wala (2004) found

663 species, but that area has not only a high topo-diversity, but also belongs to the more species-rich southern domain of the Sudanian zone.

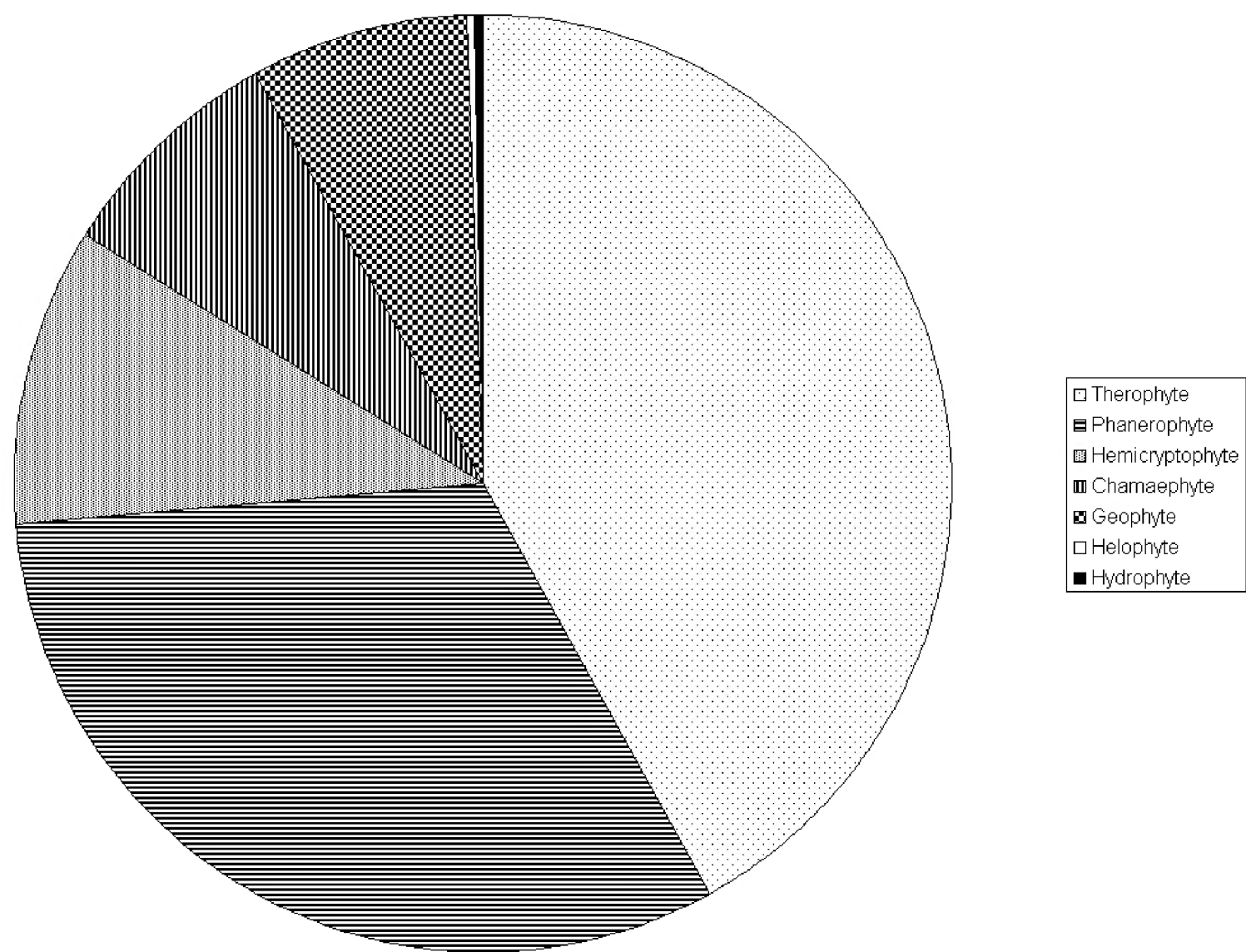


Figure 3. Life form composition of the Magnoliophyte species in the partial faunal reserve of Pama.

List of species

Magnoliophyta of the partial faunal reserve of Pama, ordered by family and species. Life form information is provided in brackets after the species (T, therophyte; G, geophyte; C, chamaephyte; P, phanerophyte; Helo, helophyte; and Hydro, hydrophyte)

Acanthaceae

- Blepharis linariifolia* Pers. [T] Mbayngone 161, Thiombiano et al. 432
- Blepharis maderaspatensis* (L.) B.Heyne ex Roth [T] Mbayngone 245, Thiombiano 780
- Dyschoriste perrottetii* (Nees) Kuntze [T] Mbayngone 460
- Hygrophila senegalensis* (Nees) T.Anderson [T] Mbayngone 399, Schmidt 740, Thiombiano et al. 216
- Justicia ladanoides* Lam. [C] Mbayngone 394 & 398
- Lepidagathis anobrya* Nees [C] Mbayngone 117, 137 & 273, Thiombiano 486 & 999
- Monechma ciliatum* (Jacq.) Milne-Redh. [T] Mbayngone 127
- Monechma depauperatum* (T.Anderson) C.B.Clarke [C] Thiombiano 718
- Nelsonia canescens* (Lam.) Spreng. [C] Thiombiano 1059, Thiombiano et al. 209 & 226

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Alismataceae

Sagittaria guayanensis Humb. & Bonpl. & Kunth [Hydro] Schmidt 742

Amaranthaceae

Achyranthes aspera L. [T]

Pandiaka angustifolia (Vahl) Hepper [T]

Pandiaka involucrata (Moq.) B.D.Jacks. [T] Mbayngone 238

Anacardiaceae

Haematostaphis barteri Hook.f. [P]

Lannea acida A.Rich. [P]

Lannea microcarpa Engl. & K.Krause [P]

Ozoroa obovata (Oliv.) R.Fern. & A.Fern. [P] Mbayngone 91

Sclerocarya birrea (A.Rich.) Hochst. [P]

Annonaceae

Annona senegalensis Pers. [P]

Hexalobus monopetalus (A.Rich.) Engl. & Diels [P] Mbayngone 95

Xylopia acutiflora (Dunal) A.Rich. [P] Mbayngone 465

Anthericaceae

Chlorophytum blepharophyllum Schweinf. ex Baker [H] Ouédraogo 36

Chlorophytum pusillum Schweinf. ex Baker [G] Mbayngone 163 & 345

Chlorophytum stenopetalum Baker [H] Mbayngone 183

Apocynaceae

Asclepias curassavica L. [C] Mbayngone 329

Brachystelma exile Bullock [G]

Holarrhena floribunda (G.Don) T.Durand & Schinz [P] Thiombiano 800

Araceae

Amorphophallus aphyllus (Hook.) Hutch. [G]

Stylochaeton hypogaeus Lepr. [G]

Stylochaeton lancifolius Kotschy & Peyr. [G]

Arecaceae

Borassus aethiopum Mart. [P]

Asclepiadaceae

Calotropis procera (Aiton) R.Br. [P] Thiombiano 1066

Ceropegia deightonii Hutch. & Dalziel [G] Mbayngone 177

Leptadenia hastata (Pers.) Decne. [P] Thiombiano 1062

Raphionacme bingeri (A.Chev.) Lebrun & Stork [G]

Raphionacme brownii Scott-Elliot [G] Mbayngone 236

Tacazzea apiculata Oliv. [P] Mbayngone 469

Xysmalobium heudelotianum Decne. [C] Mbayngone 126 & 196

Asparagaceae

Asparagus africanus Lam. [G]

Asteraceae

Aspilia bussei O.Hoffm. & Muschl. [T]

Aspilia helianthoides (Schumach. & Thonn.) Oliv. & Hiern [T] Mbayngone 118

Aspilia paludosa Berhaut [T] Mbayngone 370, Thiombiano 502

Aspilia rudis Oliv. & Hiern [T] Mbayngone 237 & 261

Bidens barteri (Oliv. & Hiern) T.G.J.Rayner [T]

Bidens pilosa L. [T] Hahn-Hadjali 1032

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Asteraceae (continued)

Centaurea praecox Oliv. & Hiern [H] Mbayngone 440

Chrysanthellum indicum DC. [T]

Dicoma sessiliflora Harv. [H] Mbayngone 175, 176 & 321

Lactuca praevia C.D.Adams [G] Mbayngone 322

Melanthera elliptica O.Hoffm. [H] Mbayngone 180

Melanthera scandens (Schumach. & Thonn.) Roberty [T] Mbayngone 338

Pentanema indicum (L.) Y.Ling [T] Mbayngone 262

Vernonia colorata (Willd.) Drake [P] Thiombiano et al. 229

Balanitaceae

Balanites aegyptiaca (L.) Delile [P]

Bignoniaceae

Stereospermum kunthianum Cham. [P] Thiombiano 834, Thiombiano et al. 2122

Bombacaceae

Adansonia digitata L. [P]

Bombax costatum Pellegr. & Vuill. [P] Thiombiano 775

Boraginaceae

Heliotropium bacciferum Forssk. [T] Thiombiano 351 & 423

Heliotropium strigosum Willd. [T] Mbayngone 250 & 331

Burseraceae

Commiphora africana (A.Rich.) Engl. [P]

Caesalpiniaceae

Afzelia africana Sm. ex Pers. [P] Thiombiano 801

Burkea africana Hook. [P] Mbayngone 335

Cassia absus L. [C] Mbayngone 391

Cassia italica (Mill.) Lam. ex F.W.Andrews [C] Thiombiano 585

Cassia mimosoides L. [T] Thiombiano 815

Cassia nigricans Vahl [T]

Cassia obtusifolia L. [P]

Cassia occidentalis L. [T] Thiombiano 1060

Cassia sieberiana DC. [P]

Daniellia oliveri (Rolfe) Hutch. & Dalziel [P] Thiombiano 294 & 802

Detarium microcarpum Guill. & Perr. [P] Mbayngone 316, Thiombiano 808

Piliostigma reticulatum (DC.) Hochst. [P]

Piliostigma thonningii (Schumach.) Milne-Redh. [P] Mbayngone 348

Tamarindus indica L. [P]

Capparaceae

Boscia senegalensis (Pers.) Lam. [P]

Cadaba farinosa Forssk. [P]

Capparis sepiaria L. [P]

Maerua angolensis DC. [P]

Maerua oblongifolia (Forssk.) A.Rich. [P]

Caryophyllaceae

Polycarpaea eriantha Hochst. ex A.Rich. [T] Mbayngone 170 & 284

Polycarpaea linearifolia (DC.) DC. [T] Mbayngone 168 & 346, Thiombiano 348, 425 & 781, Thiombiano et al. 2324

Celastraceae

Gymnosporia senegalensis (Lam.) Loes. [P]

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Chrysobalanaceae

Parinari curatellifolia Planch. ex Benth. [P] Mbayngone 92

Cochlospermaceae

Cochlospermum planchonii Hook.f. [C]

Cochlospermum tinctorium Perr. ex A.Rich. [G] Mbayngone 274

Colchicaceae

Gloriosa superba L. [G]

Iphigenia ledermannii Engl. & K.Krause [G] Mbayngone 157 & 256, Thiombiano 433

Combretaceae

Anogeissus leiocarpa (DC.) Guill. & Perr. [P]

Combretum adenogonium Steud. ex A.Rich. [P] Mbayngone 349

Combretum collinum Fresen. [P] Mbayngone 350, Thiombiano 150, 496, 811, 876, 877 & 885

Combretum glutinosum Perr. ex DC. [P] Thiombiano 1058

Combretum micranthum G.Don [P]

Combretum molle R.Br. ex G.Don [P]

Combretum nigricans Lepr. ex Guill. & Perr. [P] Thiombiano et al. 2326

Combretum paniculatum Vent. [P]

Guiera senegalensis J.F.Gmel. [P]

Pteleopsis suberosa Engl. & Diels [P] Thiombiano 151 & 152, Thiombiano et al. 2530

Terminalia avicennioides Guill. & Perr. [P] Thiombiano 497, Thiombiano et al. 2111

Terminalia laxiflora Engl. & Diels [P]

Terminalia macroptera Guill. & Perr. [P]

Terminalia mollis M.A.Lawson [P]

Terminalia schimperiana Hochst. [P]

Commelinaceae

Aneilema lanceolatum Benth. [C] Mbayngone 275, 282 & 412, Thiombiano 347

Aneilema paludosum A.Chev. [Helo] Mbayngone 415 & 423, Thiombiano et al. 247

Commelina benghalensis L. [C] Mbayngone 367

Commelina erecta L. [T] Mbayngone 148

Commelina nigriflora Benth. [C] Mbayngone 378

Commelina subulata Roth [T]

Cyanotis lanata Benth. [T] Mbayngone 191, Thiombiano 357

Connaraceae

Rourea coccinea (Thonn. ex Schumach.) Benth. [P]

Convolvulaceae

Evolvulus alsinoides (L.) L. [C] Thiombiano 350

Ipomoea argentea Hallier f. [T] Mbayngone 319 & 485

Ipomoea asarifolia (Desr.) Roem. & Schult. [P]

Ipomoea coscinosperma Hochst. ex Choisy [T] Mbayngone 139 & 162, Thiombiano 349, 475, 485 & 500

Ipomoea eriocarpa R.Br. [T] Mbayngone 147

Ipomoea heterotricha Didr. [T]

Ipomoea obscura (L.) Ker Gawl. [T]

Ipomoea setifera Poir. [T] Mbayngone 244

Ipomoea triloba L. [T] Mbayngone 234

Merremia dissecta (Jacq.) Hallier f. [T] Mbayngone 309

Merremia kentrocaulos (C.B.Clarke) Hallier f. [P] Mbayngone 435

Cucurbitaceae

Citrullus lanatus (Thunb.) Matsum. & Nakai [T]

Cucumis melo L. [T] Mbayngone 434

Mukia maderaspatana (L.) M.Roem. [H] Mbayngone 131

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Cyperaceae

- Abildgaardia abortiva* (Steud.) Lye [T]
Abildgaardia coleotricha (Hochst. ex A.Rich.) Lye [T] Mbayngone 1, 28, 126 & 518
Abildgaardia filamentosa (Vahl) Lye [H]
Abildgaardia hispidula (Vahl) Lye [T] Mbayngone 2 & 74
Abildgaardia pilosa (Willd.) Nees [T] Mbayngone 279
Abildgaardia wallichiana (Schult.) Lye [T] Mbayngone 20 & 83
Ascolepis protea Welw. [H] Mbayngone 9 & 49
Cyperus haspan L. [H] Mbayngone 19, Thiombiano et al. 256
Cyperus podocarpus Boeckeler [T] Mbayngone 03, 31 & 32, Thiombiano et al. 494
Cyperus reduncus Hochst. ex Boeckeler [T] Mbayngone 340
Cyperus rotundus L. [G] Mbayngone 05, 51 & 81
Eleocharis brainii Svenson [T] Mbayngone 456
Fimbristylis dichotoma (L.) Vahl [H] Mbayngone 35
Fimbristylis ferruginea (L.) Vahl [H] Mbayngone 355, Thiombiano 492
Fimbristylis microcarya F.Muell. [H]
Kyllinga erecta Schumach. [G]
Kyllinga pumila Michx. [H]
Kyllinga squamulata Thonn. ex Vahl [T] Mbayngone 15 & 23
Mariscus cylindristachyus Steud. [H] Mbayngone 442
Mariscus squarrosus (L.) C.B.Clarke [T] Mbayngone 13,
Pycnus flavescens (L.) P.Beauv. ex Rchb. [T] Mbayngone 424
Pycnus macrostachyos (Lam.) J.Raynal [T] Thiombiano et al. 205
Scleria pergracilis (Nees) Kunth [T] Mbayngone 142, 208 & 263
Scleria sphaerocarpa (E.A.Rob.) Napper [T]

Dioscoreaceae

- Dioscorea alata* L. [G] Mbayngone 241
Dioscorea bulbifera L. [G] Thiombiano 476
Dioscorea cayenensis Lam. [G]
Dioscorea sagittifolia Pax [G]
Dioscorea togoensis R.Knuth [G] Mbayngone 432

Droseraceae

- Drosera indica* L. [T] Mbayngone 402 & 414

Ebenaceae

- Diospyros mespiliformis* Hochst. ex A.DC. [P] Hahn-Hadjali 1061

Euphorbiaceae

- Acalypha crenata* Hochst. ex A.Rich. [T] Mbayngone 387
Antidesma rufescens Tul. [P] Mbayngone 466
Antidesma venosum E.Mey. ex Tul. [P] Thiombiano 603
Bridelia ferruginea Benth. [P] Mbayngone 307 & 341
Bridelia scleroneura Müll.Arg. [P] Thiombiano 806
Caperonia serrata (Turcz.) C.Presl [T] Mbayngone 407 & 454
Croton nigrifolius Scott-Elliot [P] Mbayngone 467
Croton scarciesii Scott-Elliot [P] Mbayngone 468
Euphorbia convolvuloides Hochst. ex Benth. [T] Mbayngone 287, Thiombiano 442
Euphorbia hirta L. [T]
Euphorbia hyssopifolia L. [T] Thiombiano 431
Euphorbia polycnemoides Hochst. ex Boiss. [T] Mbayngone 165, Thiombiano et al. 2000
Excoecaria grahamii Stapf [C] Mbayngone 215 & 306
Flueggea virosa (Roxb. ex Willd.) Voigt [P]
Hymenocardia acida Tul. [P] Ouédraogo 46
Mallotus oppositifolius (Geiseler) Müll.Arg. [P] Mbayngone 461

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Euphorbiaceae (continued)

- Phyllanthus amarus* Schumach. & Thonn. [P]
Phyllanthus welwitschianus Müll.Arg. [P] Thiombiano 443
Tragia senegalensis Müll.Arg. [P] Hahn-Hadjali 365, Mbayngone 247
Tragia tenuifolia Benth. [P] Hahn-Hadjali 365, Thiombiano 973, Thiombiano et al. 478 & 498

Fabaceae

- Adenodolichos paniculatus* (Hua) Hutch. & Dalziel [P] Mbayngone 330, Thiombiano et al. 774
Aeschynomene indica L. [P] Thiombiano et al. 232
Alysicarpus glumaceus (Vahl) DC. [T] Thiombiano et al. 2127
Alysicarpus ovalifolius (Schumach.) J.Léonard [T] Thiombiano et al. 198
Alysicarpus rugosus (Willd.) DC. [T] Mbayngone 121 & 416, Thiombiano et al. 207
Bobgunnia madagascariensis (Desv.) J.H.Kirkbr. & Wiersema [P]
Cajanus kerstingii Harms [P] Thiombiano 481
Crotalaria arenaria Benth. [T]
Crotalaria barkae Schweinf. [T] Mbayngone 428
Crotalaria bongensis Baker f. [T] Schmidt 748
Crotalaria goreensis Guill. & Perr. [P] Thiombiano et al. 203
Crotalaria leprieurii Guill. & Perr. [T] Mbayngone 207, 265 & 277
Crotalaria macrocalyx Benth. [T] Mbayngone 366, Thiombiano 427
Crotalaria microcarpa Hochst. ex Benth. [T] Mbayngone 112 & 166, Thiombiano 426
Crotalaria naragutensis Hutch. [T]
Desmodium gangeticum (L.) DC. [C] Hahn-Hadjali 478, Mbayngone 179, 264 & 313, Thiombiano 478
Desmodium ospriostreblum Chiov. [T] Mbayngone 257
Desmodium velutinum (Willd.) DC. [C] Thiombiano 472 & 499, Thiombiano et al. 220
Eriosema andohii Milne-Redh. [C] Mbayngone 458
Eriosema griseum Baker [C] Thiombiano 429
Eriosema psoraleoides (Lam.) G.Don [C] Mbayngone 229
Indigofera aspera Perr. ex DC. [T] Mbayngone 384
Indigofera berhautiana J.B.Gillett [C]
Indigofera bracteolata DC. [C] Mbayngone 354, Thiombiano et al. 190
Indigofera colutea (Burm.f.) Merr. [T] Mbayngone 375
Indigofera congolensis De Wild. & T.Durand [T] Schmidt 806
Indigofera dendroides Jacq. [T] Thiombiano 1008
Indigofera geminata Baker [T] Mbayngone 105 & 253, Thiombiano 354
Indigofera hochstetteri Baker [T] Mbayngone 471
Indigofera leprieurii Baker f. [T] Mbayngone 128
Indigofera leptoclada Harms [T] Thiombiano 369 & 787
Indigofera macrocalyx Guill. & Perr. [T] Mbayngone 289
Indigofera microcarpa Desv. [T] Mbayngone 186
Indigofera nigriflora Hook.f. [T] Mbayngone 217 & 302, Thiombiano et al. 217
Indigofera paniculata Vahl ex Pers. [T] Mbayngone 108, Thiombiano 404 & 436
Indigofera pilosa Poir. [T]
Indigofera stenophylla Guill. & Perr. [T] Thiombiano 353
Indigofera tetrasperma Vahl ex Pers. [T] Mbayngone 214
Indigofera tinctoria L. [T] Thiombiano 1031 & 508
Melliniella micrantha Harms [T]
Mucuna pruriens (L.) DC. [T] Thiombiano 506
Pericopsis laxiflora (Benth.) Meeuwen [P] Mbayngone 89
Philenoptera laxiflora (Guill. & Perr.) Roberty [P]
Pseudarthria hookeri Wight & Arn. [P] Mbayngone 447, Thiombiano 472
Pterocarpus erinaceus Poir. [P]
Rhynchosia minima (L.) DC. [P] Mbayngone 326, Thiombiano 359
Rhynchosia sublobata (Schumach. & Thonn.) Meikle [C] Mbayngone 134
Sesbania leptocarpa DC. [T]
Stylosanthes fruticosa (Retz.) Alston [C]

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Fabaceae (continued)

- Tephrosia bracteolata* Guill. & Perr. [T] Thiombiano 440
Tephrosia elegans Schumach. [T] Mbayngone 439
Tephrosia linearis (Willd.) Pers. [T] Mbayngone 292 & 397, Thiombiano 437
Tephrosia nana Schweinf. [P] Hahn-Hadjali 430
Tephrosia pedicellata Baker [T]
Tephrosia platycarpa Guill. & Perr. [T] Mbayngone 213
Uraria picta (Jacq.) DC. [T] Mbayngone 336
Vigna filicaulis Hepper [T] Mbayngone 116, 145 & 303, Thiombiano 474
Vigna gracilis (Guill. & Perr.) Hook.f. [P] Mbayngone 443
Vigna heterophylla A.Rich. [T]
Vigna racemosa (G.Don) Hutch. & Dalziel [T] Mbayngone 123, 173 & 266, Thiombiano 428
Vigna reticulata Hook.f. [T] Mbayngone 198 & 298
Vigna stenophylla Harms [T] Mbayngone 151
Xeroderris stuhlmannii (Taub.) Mendonça & E.C.Sousa [P] Thiombiano 175
Zornia glochidiata Rchb. ex DC. [T] Mbayngone 84

Flacourtiaceae

- Oncoba spinosa* Forssk. [P] Mbayngone 477

Gentianaceae

- Neurotheca loeselioides* (Spruce ex Progel) Baill. [T] Thiombiano et al. 188

Hyacinthaceae

- Albuca nigriflora* (Baker) Troupin [G] Mbayngone 171 & 235

Hypoxidaceae

- Curculigo pilosa* (Schumach. & Thonn.) Engl. [G] Mbayngone 132 & 285

Iridaceae

- Gladiolus gregarius* Welw. ex Baker [G]

Lamiaceae

- Aeollanthus pubescens* Benth. [T] Schmidt 802, Thiombiano et al. 356
Haumaniastrum caeruleum (Oliv.) P.A.Duvign. & Plancke [P] Mbayngone 451 & 482
Hoslundia opposita Vahl [P]
Hyptis spicigera Lam. [T] Mbayngone 184, 211, 242 & 271
Hyptis suaveolens Poit. [T] Mbayngone 210, Thiombiano et al. 224
Leucas martinicensis (Jacq.) R.Br. [T]
Plectranthus gracillimus (T.C.E.Fr.) Hutch. & Dandy [T]
Tinnea barteri Gürke [C] Mbayngone 124, Thiombiano 796 & 797

Loganiaceae

- Strychnos innocua* Delile [P] Thiombiano 777, Thiombiano et al. 773
Strychnos spinosa Lam. [P] Thiombiano 782

Malvaceae

- Cienfuegosia heteroclada* Sprague [C] Mbayngone 200 & 294, Thiombiano et al. 2531
Hibiscus articulatus Hochst. ex A.Rich. [H] Thiombiano 501
Hibiscus cannabinus L. [T]
Kosteletzkya buettneri Gürke [P] Mbayngone 425 & 449
Sida acuta Burm.f. [C]
Sida alba L. [T] Mbayngone 164
Sida rhombifolia L. [C]
Sida urens L. [T] Thiombiano 475
Wissadula rostrata (Schumach.) Hook.f. [T] Mbayngone 57

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Marantaceae

Thalia geniculata L. [G] Mbayngone 218

Meliaceae

Ekebergia capensis Sparrm. [P]

Khaya senegalensis (Desr.) A.Juss. [P]

Pseudocedrela kotschy (Schweinf.) Harms [P]

Trichilia emetica Vahl [P] Mbayngone 93

Menispermaceae

Triclisia subcordata Oliv. [P] Mbayngone 470

Mimosaceae

Acacia dudgeonii Craib ex Holland [P]

Acacia gourmaensis A.Chev. [P] Ouédraogo 144

Acacia hockii De Wild. [P] Thiombiano 788, 819, Thiombiano et al. 201, 2528 & 2566

Acacia macrostachya Rchb. ex DC. [P]

Acacia polyacantha Willd. [P] Thiombiano et al. 231 & 2529

Acacia seyal Delile [P]

Acacia sieberiana DC. [P]

Albizia chevalieri Harms [P]

Dichrostachys cinerea (L.) Wight & Arn. [P]

Entada africana Guill. & Perr. [P]

Parkia biglobosa (Jacq.) R.Br. ex G.Don [P]

Prosopis africana (Guill. & Perr.) Taub. [P]

Moraceae

Ficus sycomorus L. [P]

Ficus thonningii Blume [P]

Myrtaceae

Syzygium guineense (Willd.) DC. [P] Mbayngone 462, Thiombiano 1065

Nyctaginaceae

Boerhavia erecta L. [T]

Ochnaceae

Lophira lanceolata Tiegh. ex Keay [P] Mbayngone 473

Olacaceae

Ximenia americana L. [P]

Oleaceae

Jasminum obtusifolium Baker [P] Mbayngone 427, Thiombiano et al. 222

Onagraceae

Ludwigia abyssinica A.Rich. [P] Mbayngone 249

Ludwigia hyssopifolia (G.Don) Exell [T] Mbayngone 452, Thiombiano et al. 206

Ludwigia senegalensis (DC.) Troch. [T]

Orchidaceae

Nervilia crociformis (Zoll. & Moritzi) Seidenf. [G] Thiombiano et al. 2121

Oxalidaceae

Biophytum umbraculum Welw. [T] Mbayngone 181

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Pedaliaceae

Ceratotheca sesamoides Endl. [C] Thiombiano et al. 2117

Poaceae

Acroceras amplexans Stapf [C]
Andropogon chinensis (Nees) Merr. [H] Mbayngone 193, 205, 223, 233 & 268
Andropogon fastigiatus Sw. [T] Mbayngone 130, 167, 219 & 254, Thiombiano et al. 2320
Andropogon gayanus Kunth [H] Mbayngone 231 & 514
Andropogon pseudapricus Stapf [T] Thiombiano et al. 197
Andropogon schirensis A.Rich. [H] Mbayngone 450
Andropogon tectorum Schumach. & Thonn. [H] Mbayngone 226 & 304
Aristida adscensionis L. [T]
Aristida hordeacea Kunth [T]
Aristida kerstingii Pilg. [T]
Brachiaria jubata (Fig. & De Not.) Stapf [H] Mbayngone 187 & 290
Brachiaria lata (Schumach.) C.E.Hubb. [T]
Brachiaria orthostachys (Mez) Clayton [T] Schmidt 746
Brachiaria serrata (Thunb.) Stapf [H] Mbayngone 197, 199 & 334
Brachiaria villosa (Lam.) A.Camus [T] Mbayngone 129
Chasmopodium caudatum (Hack.) Stapf [T] Mbayngone 133, Thiombiano et al. 2316
Chloris pilosa Schumach. [T]
Chloris robusta Stapf [G] Ouédraogo 47, Thiombiano et al. 218 & 2527
Chrysopogon nigritanus (Benth.) Veldkamp [H]
Ctenium elegans Kunth [T]
Ctenium newtonii Hack. [H] Mbayngone 141, 202, 315 & 320, Schmidt 807, Thiombiano 491
Cymbopogon caesius (Nees ex Hook. & Arn.) Stapf [H]
Cymbopogon schoenanthus (L.) Spreng. [H] Mbayngone 44
Dactyloctenium aegyptium (L.) Willd. [T]
Digitaria argillacea (Hitchc. & Chase) Fernald [T] Hahn-Hadjali 1002, Thiombiano 470
Digitaria gayana (Kunth) A.Chev. ex Stapf [T]
Digitaria horizontalis Willd. [T] Thiombiano 503
Digitaria velutina (Forssk.) P.Beauv. [T] Thiombiano et al. 2112
Diheteropogon amplexans (Nees) Clayton [H] Mbayngone 159, Schmidt 745, Thiombiano et al. 2317
Echinochloa colona (L.) Link [T]
Elionurus elegans Kunth [T] Mbayngone 169
Elytrophorus spicatus (Willd.) A.Camus [T] Mbayngone 281
Eragrostis gangetica (Roxb.) Steud. [T]
Eragrostis tremula Hochst. ex Steud. [T] Thiombiano et al. 202
Eragrostis turgida (Schumach.) De Wild. [T]
Euclasta condylotricha (Hochst. ex Steud.) Stapf [T] Mbayngone 160
Hackelochloa granularis (L.) Kuntze [T]
Heteropogon contortus (L.) Roem. & Schult. [H] Thiombiano et al. 215
Hyparrhenia glabriuscula (Hochst. ex A.Rich.) Stapf [H] Mbayngone 149, 269, 304, 305 & 325
Hyparrhenia involucrata Stapf [T] Mbayngone 106, 172, 194 & 308, Schmidt 751 & 804, Thiombiano et al. 2318
Hyparrhenia rufa (Nees) Stapf [H] Mbayngone 267, 297, 339 & 347, Thiombiano et al. 187
Hyparrhenia smithiana (Hook.f.) Stapf [H] Mbayngone 125, 182, 240, 259, 311 & 343, Thiombiano et al. 2313
Hyparrhenia subplumosa Stapf [H] Mbayngone 258, 299, 313 & 342, Thiombiano et al. 219
Hyperthelia dissoluta (Nees ex Steud.) Clayton [H] Mbayngone 195
Imperata cylindrica (L.) Raeusch. [G] Mbayngone 405
Loudetia annua (Stapf) C.E.Hubb. [T] Schmidt 747 & 805
Loudetia arundinacea (A.Rich.) Steud. [H] Mbayngone 115 & 206
Loudetia hordeiformis (Stapf) C.E.Hubb. [T] Mbayngone 288 & 418, Thiombiano 406
Loudetia simplex (Nees) C.E.Hubb. [H] Thiombiano 785 & 786
Loudetia togoensis (Pilg.) C.E.Hubb. [T] Thiombiano 488, Thiombiano et al. 2319
Microchloa indica (L.f.) P.Beauv. [T]
Monocymbium cerasiiforme (Nees) Stapf [H] Mbayngone 444

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Poaceae (continued)

- Oryza longistaminata* A.Chev. & Roehr. [G] Thiombiano et al. 230
Panicum anabaptistum Steud. [H] Mbayngone 453
Panicum fluviicola Steud. [H] Thiombiano 1003, Thiombiano et al. 2113
Panicum humile Nees ex Steud. [T]
Panicum pansum Rendle [T] Thiombiano 420
Panicum phragmitoides Stapf [H] Mbayngone 437 & 441
Paspalum scrobiculatum L. [H] Thiombiano et al. 212
Pennisetum pedicellatum Trin. [T]
Pennisetum polystachion (L.) Schult. [T]
Pennisetum unisetum (Nees) Benth. [H] Mbayngone 337
Rhynchachne triaristata (Steud.) Stapf [T]
Rottboellia cochinchinensis (Lour.) Clayton [T]
Schizachyrium brevifolium (Sw.) Nees ex Büse [T] Mbayngone 272, Thiombiano 337
Schizachyrium exile (Hochst.) Pilg. [T] Mbayngone 119, Thiombiano et al. 2322
Schizachyrium nodulosum (Hack.) Stapf [T] Mbayngone 150, 285 & 385, Schmidt 755 & 756
Schizachyrium ruderae Clayton [T]
Schizachyrium rupestre (K.Schum.) Stapf [H] Mbayngone 140, 185, 286 & 412
Schizachyrium sanguineum (Retz.) Alston [H] Thiombiano et al. 2315
Schizachyrium urceolatum (Hack.) Stapf [T]
Schoenefeldia gracilis Kunth [T]
Setaria barbata (Lam.) Kunth [T] Mbayngone 146
Setaria pumila (Poir.) Roem. & Schult. [T]
Sorghastrum bipennatum (Hack.) Pilg. [T] Mbayngone 135 & 225
Sporobolus festivus Hochst. ex A.Rich. [H]
Sporobolus microprotus Stapf [T]
Sporobolus pectinellus Mez [T]
Sporobolus pyramidalis P.Beauv. [H]
Thelepogon elegans Roth [T] Mbayngone 380, Schmidt 801
Tripogon minimus (A.Rich.) Steud. [H]
Urelytrum annuum Stapf [T] Mbayngone 136
Urelytrum muricatum C.E.Hubb. [H] Mbayngone 278

Polygalaceae

- Polygala arenaria* Willd. [T] Mbayngone 107 & 516, Thiombiano 490, Thiombiano et al. 2123
Polygala erioptera DC. [T] Thiombiano 360
Polygala multiflora Poir. [T] Mbayngone 280
Securidaca longipedunculata Fresen. [P]

Portulacaceae

- Portulaca quadrifida* L. [T] Thiombiano 358

Rhamnaceae

- Ziziphus abyssinica* A.Rich. [P] Thiombiano et al. 194
Ziziphus mauritiana Lam. [P] Thiombiano et al. 199
Ziziphus mucronata Willd. [P] Thiombiano 799

Rubiaceae

- Crossopteryx febrifuga* (Afzel. ex G.Don) Benth. [P] Mbayngone 351, Thiombiano 495, 994 & 995, Thiombiano et al. 195
Fadogia agrestis Schweinf. ex Hiern [C] Mbayngone 100 & 300, Thiombiano 798
Feretia apodanthera Delile [P]
Gardenia aqualla Stapf & Hutch. [P]
Gardenia erubescens Stapf & Hutch. [P]
Gardenia sokotensis Hutch. [P] Mbayngone 429, Schmidt 808
Gardenia ternifolia Schumach. & Thonn. [P] Thiombiano 789, Thiombiano et al. 771
Keetia multiflora (Schumach. & Thonn.) Bridson [P] Mbayngone 464

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Rubiaceae (continued)

- Kohautia confusa* (Hutch. & Dalziel) Bremek. [T] Mbayngone 295 & 317
Kohautia senegalensis Cham. & Schltdl. [T] Mbayngone 158, 189, 276, 293 & 310
Mitracarpus hirtus (L.) DC. [T]
Mitragyna inermis (Willd.) Kuntze [P] Thiombiano et al. 204
Oldenlandia corymbosa L. [T] Thiombiano et al. 25
Rytigynia senegalensis Blume [P] Mbayngone 463
Sarcocephalus latifolius (Sm.) E.A.Bruce [P]
Spermacoce chaetocephala DC. [T] Mbayngone 364 & 369
Spermacoce filifolia (Schumach. & Thonn.) J.-P.Lebrun & Stork [T]
Spermacoce hepperana Verdc. [T] Mbayngone 404
Spermacoce pusilla Wall. [T] Mbayngone 251
Spermacoce radiata (DC.) Hiern [T]
Spermacoce ruelliae DC. [T]
Spermacoce stachydea DC. [T] Mbayngone 224 & 328

Sapindaceae

- Paullinia pinnata* L. [P] Schmidt 799

Sapotaceae

- Vitellaria paradoxa* C.F.Gaertn. [P]

Scrophulariaceae

- Buchnera hispida* Buch.-Ham. ex D.Don [T] Mbayngone 323
Micrargeria filiformis (Schumach. & Thonn.) Hutch. & Dalziel [T]
Scoparia dulcis L. [T] Thiombiano et al. 188
Striga asiatica (L.) Kuntze [T] Mbayngone 178
Striga aspera (Willd.) Benth. [C] Mbayngone 368
Striga brachycalyx Engl. ex Skan [T] Thiombiano 487
Striga hermonthica (Delile) Benth. [C]
Striga macrantha (Benth.) Benth. [T] Mbayngone 431
Striga passargei Engl. [T] Thiombiano et al. 2120

Solanaceae

- Physalis lagascae* Roem. & Schult. [T]
Solanum incanum L. [P] Ouédraogo 143

Sterculiaceae

- Cola laurifolia* Mast. [P]
Melochia corchorifolia L. [C]
Sterculia setigera Delile [P]
Waltheria indica L. [C]

Taccaceae

- Tacca leontopetaloides* (L.) Kuntze [G]

Thymelaeaceae

- Gnidia kraussiana* Meisn. [C] Mbayngone 120, 204, 314 & 353, Thiombiano 436

Tiliaceae

- Corchorus fascicularis* Lam. [T]
Corchorus olitorius L. [T] Mbayngone 270
Corchorus tridens L. [T]
Grewia barteri Burret [P] Ouédraogo 326
Grewia bicolor Juss. [P]
Grewia cissoides Hutch. & Dalziel [C] Ouédraogo 325, Thiombiano 1000 & 1001, Thiombiano et al. 191

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Tiliaceae (continued)

- Grewia lasiodiscus* K.Schum. [P] Ouédraogo 145, Ouédraogo 48
Grewia mollis Juss. [P] Mbayngone 296 & 333, Thiombiano 871, 872 & 996
Triumfetta lepidota K.Schum. [P] Mbayngone 110, 174, 190 & 318, Thiombiano 355
Triumfetta pentandra A.Rich. [T]

Verbenaceae

- Lantana ukambensis* (Vatke) Verdc. [G]
Lippia chevalieri Moldenke [G] Mbayngone 352, Thiombiano 505
Vitex chrysocarpa Planch. ex Benth. [P]
Vitex doniana Sweet [P]
Vitex madiensis Oliv. [P]

Vitaceae

- Ampelocissus leonensis* (Hook.f.) Planch. [P]
Ampelocissus multistriata (Baker) Planch. [P]
Cissus cornifolia (Baker) Planch. [C] Mbayngone 122 & 246, Thiombiano 2207 & 783
Cissus diffusiflora (Baker) Planch. [P] Mbayngone 436
Cissus populnea Guill. & Perr. [P]
Cissus sokodensis Gilg & Brandt [G] Thiombiano 779
Cyphostemma adenocaulis (Steud. ex A.Rich.) Desc. ex Wild & R.B.Drumm. [P]
Cyphostemma flavicans (Baker) Desc. [G]

Zingiberaceae

- Siphonochilus aethiopicus* (Schweinf.) B.L.Burt [G]

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Literature cited

- Aké Assi, L. 2001. Flore de la Côte d'Ivoire: catalogue systématique, biogéographie et écologie. I. Geneva, Switzerland. Editions des Conservatoire et Jardin Botaniques, Boissiera 57. 396 p.
- Aké Assi, L. 2002. Flore de la Côte d'Ivoire: catalogue systématique, biogéographie et écologie. II. Geneva, Switzerland. Editions des Conservatoire et Jardin Botaniques, Boissiera 58. 401 p.
- Arbonnier, M., N. Barbier, G. De Wispelaere, D. Dulieu, J. Lejoly, A. Mahamane, J. M. Ouadba, and M. Saadou. 2002. Cartographie du couvert végétal du complexe du « W ». Ouagadougou: Ecopas. 27 p.
- Brummitt, R. K. 1992. Vascular Plant Families and Genera. Royal Botanic Gardens. Kew: Kew Publishing. 804 p.
- Gautier, L., G. F. Smith, R. Spichiger, R. R. Klopper, S. J. Siebert, and C. Chatelain. 2006. Merging tropical and southern African flowering plant data: the African plant database project; p. 629-642 *In* S. A. Ghazanfar and H. J. Beentje (ed.). Taxonomy and Ecology of African Plants, their conservation and sustainable use - Proceedings of the 17th AETFAT Congress Addis Abeba 21.-26.09.2003. Royal Botanic Gardens. Kew: Kew Publishing.
- Guinko, S. 1984. La végétation de la Haute-Volta. Tome 1. PhD thesis, Université de Bordeaux III. 318 p.
- Guinko, S. and A. Thiombiano. 2005. Florule de la Forêt Classée du Kou (Burkina Faso). Ouagadougou: Université de Ouagadougou. 145 p.
- Hahn-Hadjali, K., M. Schmidt, and A. Thiombiano. 2006. Phytodiversity dynamics in pastured and protected West African savannas; p. 351-359 *In* S. A. Ghazanfar and H. J. Beentje (ed.). Taxonomy and ecology of African Plants: their conservation and sustainable use - Proceedings of the 17th AETFAT Congress Addis Abeba 21.-26.09.2003. Royal Botanic Gardens. Kew: Kew Publishing.

LISTS OF SPECIES

Hartley, A. J., A. Nelson, G. Buchanan, P. Mayaux, and J. M. Gregoire. 2007. Evaluating Protected Areas in Africa. Accessible at http://www-tem.jrc.it/PA/pa/3228/PA_report_3228.html#pa. Joint Research Centre, Ispra, Italy. Captured on October 2007.

Laclavère, G. 1998. Atlas du Burkina Faso, 3è édition. Paris: Editions Jeune Afrique. 62 p.

Raunkiaer, C. 1905. Types biologiques pour la géographie botanique. Oversigt over Det Kongelige Danske Videnskabernes Selskabs Forhandling 5: 347-437.

Schmidt, M. 2006. Pflanzenvielfalt in Burkina Faso - Analyse, Modellierung und Dokumentation. PhD thesis, J. W. Goethe-Universität Frankfurt am Main. 188 p.

Wala, K. 2004. La végétation de la Chaîne d'Atakora au Bénin: diversité floristique, phytosociologie et impact humain. PhD thesis, Université de Lomé. 138 p.

White, F. 1986. La végétation de l'Afrique. Paris: Orstom-Unesco. 384 p.

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